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10/797,452	03/10/2004	Sam Baghdadi	2004P03672US	4438

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EXAMINER	
PATEL, VISHAL A	

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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

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BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES

Application Number: 10/797,452
Filing Date: March 10, 2004
Appellant(s): BAGHDADI ET AL.

Baghdadi et. al.
For Appellant

EXAMINER'S ANSWER

This is in response to the appeal brief filed 10/8/07 appealing from the Office action mailed 11/21/06.

(1) Real Party in Interest

A statement identifying by name the real party in interest is contained in the brief.

(2) Related Appeals and Interferences

The examiner is not aware of any related appeals, interferences, or judicial proceedings, which will directly affect or be directly affected by or have a bearing on the Board's decision in the pending appeal.

(3) Status of Claims

The statement of the status of claims contained in the brief is correct.

(4) Status of Amendments After Final

The appellant's statement of the status of amendments after final rejection contained in the brief is incorrect. A request for reconsideration was filed on 12/27/06 and was entered.

(5) Summary of Claimed Subject Matter

The summary of claimed subject matter contained in the brief is correct.

(6) Grounds of Rejection to be Reviewed on Appeal

The appellant's statement of the grounds of rejection to be reviewed on appeal is correct.

(8) Evidence Relied Upon

3,575,523	Gross Jr.	4-1971
6,027,306	Bunker	2-2000
1,689,735	Losel	8-1924
4,571,937	Albers	2-1986

(9) Grounds of Rejection

The following ground(s) of rejection are applicable to the appealed claims:

1. Claims 1, 3-4, 9-11, 13-14 and 19-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Gross (US. 3,575,523) in view of Bunker (US. 6,027,306) and further in view of Losel (US. 1,689,735).

Gross discloses a turbine engine having a seal comprising a blade (blade 13 on 11) extending radially from a rotatable body (11), a plurality of blades (16 and 17) extending radially from a stationary body (15) towards the rotatable body and generally forming at least one row of blades (a row having blades 16 and 17), a high pressure gas region in the turbine engine that is proximate to the plurality of blades extending radially from the stationary body (figure 2) and opposite to the plurality of blades extending radially from the rotatable body, a low pressure region in the turbine engine that is proximate to the plurality of blades extending radially from the rotatable body and opposite to the plurality of blades extending radially from the stationary body (figure 2), wherein the low pressure region has a pressure less than the high pressure region (figure 2). The pluralities of blades form the seal between the high-pressure gas region and the low-pressure gas region. The plurality of blades extending radially from the stationary body are positioned proximate to the blade extending from the rotatable body and are nonparallel with the blade extending from the rotatable body (the blade on the rotatable body are non parallel to the blades on the stationary body). The blade coupled to the rotatable body is positioned to direct fluids from the low pressure gas region toward the high pressure gas region to limit leakage of fluids from the high pressure gas region proximate to the at least one row of the blades coupled

to the stationary body to the low pressure gas region proximate to the blade coupled to the rotatable body (figure 2).

The blade extending radially from the rotatable body is aligned at an angle of between about 1 degree and about 89 degree relative to a rotational axis of the rotatable body (see angle of blade 13 in figure 3).

Gross discloses the invention substantially as claimed above but fails to disclose that plurality of blades on the rotatable body and that the blades have a height of 0.6 mm. Bunker discloses a rotatable body (22) having a plurality of blades (50) that are angled at about 1-60 degrees and the blades having a height of 0.6mm. It would have been obvious to one having ordinary skill in the art at the time the invention was made to configure the blade of Gross to be plurality of blades on the rotatable body having an angle of 1-60 degrees from the rotational axis and the blades to be 0.6mm as taught by Bunker to provide an efficient turbine engine (column 3, lines 45-50 of Bunker).

Gross and Bunker disclose the invention substantially as claimed above but fail to disclose that the plurality of blades extending from the stationary body are positioned at an acute angle relative to a rotational axis of the rotatable body. Losel discloses (page 1, lines 65-70) a stationary member having plurality of blades (blades e), which are angled at an acute angle relative to a rotational axis of a shaft (a). It would have been obvious to one having ordinary skill in the art at the time the invention was made to have the plurality of blades of Gross and Bunker to be angled at an acute angle as taught by Losel, to provide an effective labyrinth seal and to prolong the life of the seal (page 1, column 1 of Losel).

2. Claims 2, 5-6, 12 and 15-16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Gross, Bunker and Losel as applied to claims above, and further in view of Albers (US. 4,571,937).

Gross discloses the invention substantially as claimed above but fails to disclose that the blades (16 and 17) on the stationary body are annularly spaced or formed intermittently and having an angle of about 1-89 degrees. Albers discloses plurality of blades (5) on a stationary body (4) and the blades are angled to about 1-89 degrees from a rotationally axis (rotational axis of 2). It would have been obvious to one having ordinary skill in the art at the time the invention was made to have the blades of Gross to be segmented annularly or formed intermittently to provide a turbine that has substantially no efficiency losses occurs (column 1, lines 51-52 of Albers).

Furthermore since the blades on the rotatable body of Gross and Bunker are angled between 0-60 degrees and the blades on the stationary body of Gross and Bunker can have an angle of 1-89 degrees by the teaching of Albers the blades are capable of being orthogonal to each other.

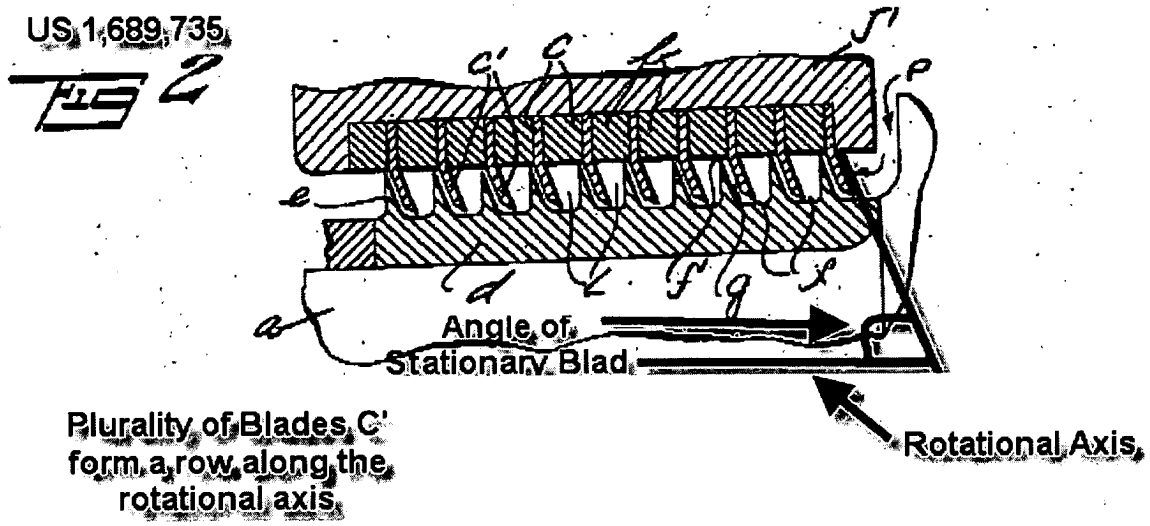
(10) Response to Argument

Appellants' arguments filed 10/8/07 have been fully considered but they are not persuasive.

Response to arguments for claims 1, 3-4, 9-11, 13-14 and 19-20: Appellants' argument that Losel does not disclose stationary blades that extend radially and generally forming a row of blades and the blades are positioned at an acute axis relative to the rotational axis is not persuasive because the blades C' form a row along a rotational axis and the blades are

at an acute angle relative to the rotational axis (clearly shown in below figure of Losel). Furthermore the reference of Gross teaches that a blades 13 are formed on rotational element and for a row that is extending annularly around the rotational axis and blades 16 and 17 that form a row along the rotational axis.

Appellants' argument that Losel does not disclose that the stationary blades are generally orthogonal to the rotational axis is not persuasive because as seen in the figure below the blades C' are generally orthogonal to the rotational axis (this is the case since the blades are extending radially from the stationary member toward the rotational member).



Response to arguments for claims 2, 5-6, 12 and 15-16: Appellants arguments that Albers does not teach a seal is not persuasive because the blades 5 reduce free flowing of cooling air since the members 5 impede the fluid path of the cooling air. Even if applicant argument that the reference of Albers does not teach seal is correct, the reference of Albers is only used to teach that blades on the stationary body are formed intermittently and are angled relative to the rotational axis (figure 1) and are annular spaced to form a row extending in an annular direction of the stationary member.

US 4,571,937

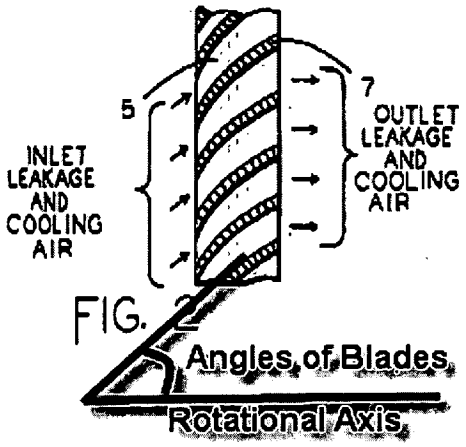


FIG. 2

Appellants' argument that Gross, Bunker and Albers do not teach the blades on the stationary member are positioned between the blade on the rotationally body and the high pressure region is not persuasive because Gross teaches (as seen in figure 2) blade 16 is between the rotational blade 13 and high pressure region defined in figure 2. Furthermore the reference of Albers is used to teach that stationary blade 16 of Gross is segmented or formed intermittently to form a row that is annular (so the blade 16 of Gross would look similar to the Albers row as seen in above figure 2).

Appellants' argument with regard to the limitation "the rotational body direct fluids toward the high pressure region and towards the blades extending from the stationary body is not persuasive because this is what is taught by Gross (in short Gross teaches in figure 2 rotational blade 13, pumping action shown by arrow in figure 2 and stationary blade 16 between the high pressure region in figure 2 and the rotational blade 13).

(11) Related Proceeding(s) Appendix

No decision rendered by a court or the Board is identified by the examiner in the Related Appeals and Interferences section of this examiner's answer.

For the above reasons, it is believed that the rejections should be sustained.

Respectfully submitted,

VP

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